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By M. MAC LEAN.

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AGRICULTURAL.

FROM THE BOSTON CULTIVATOR.

A NEW MODE OF MAKING CLOTH.

A Correspondent of the Post writes from London that an American by the name of Wells has invented a new mode of manufacturing wollen cloth which will reduce the expense not less than three fourths. It is made without spindle and without loom and is fully equal to any spun or woven broadcloth. Our readers well know that hats have long been made of wool without a single thread, and that the body of the manufactured article is more firm and durable than any woven cloth.

If it be a fact that three fourths of the labor may be saved by *compressing* the wool instead of spining it and weaving it, the advantage to this country will be greater than to any other in proportion as labor is higher here than elsewhere. The writer of the letter says:—

About six months ago, I was introduced to an American who visited this country for the purpose of securing a valuable patent for a new method of manufactring woollen cloth, all of which appears very well and possessed important improvements over the English broadcloth, and cassimere; but as I know little about the article, I did not make any mention of it at that time, for however sanguine an inventer of any new instrument may he, or however convinced the discoverer of any new theory or system may be, that it is superor to all others, the public do not always find it to prove such. As this woollen cloth is now offered for sale and as several of the large London houses have purchased hundreds of pieces for the purpose of introducing it, I am justified in calling attention to it.—The *Colonial Gazette* thus noticed the patent several months since. "Mr. Wells has invented a machine and has discovered a process by which woollen cloth of every sort is produced at less than a fourth of the cost hitherto usual. The material is not *woven* but *compressed*. Two urchins with the machine, can turn out one hundred yards of the broadcloth in twelve hours; and where twenty-four shillings were demanded per yard, six shillings afford the new manufacturers abundant remuneration. We have inspected and handled, as roughly as we liked, specimens of every variety, from the finest scarlet cloth for officers' uniforms, down to blankets and carpets, and we certainly could not, either by sight or touch distinguish them from corresponding pieces made in the old fashion."

The new cloth is likely to create a great revolution among the manufacturers, for already they discover that it is something more than a mere bubble of an hour. The Austrian government has purchased the right to manufacture in Austria, and several other rights to manufacture it in England and France have also been purchased. There are four or five large mills now in constant operation in this country, which turn out daily several hundred pieces of the cloth of various qualities. Soon the markets here will be filled with it, and no doubt a large quantity will be sold in the United States as Mr. Wells, who is a New Yorker, informed me that so soon as he had completed all his arrangements for supplying the European markets, he should establish several large factories in America. Mr. Wells has worn a frock coat made of his new cloth, almost every day during the last six months, and it is an elegant garment even now—the material being *compressed*, there is no thread in it, and the *nap* has the same smooth, glossy appearance as when I first looked at it.—The cheapness, durability, and beautiful appearance of this cloth must give it a decided advantage over all other kinds. So far it has met with great favor from the most extensive dealers in cloths in London.

From the Kentucky Farmer.

IMPROVED BREEDS OF HOGS.

There has been much controversy in Kentucky in reference to the relative merits of the various breeds of improved hogs; and the subject has indeed engendered some of the spirit of partizanship. It is not our purpose to take a side in the controversy; being determined to deal with the utmost impartiality towards the the advocates of each of the various breeds. Our object shall be, in conducting this paper, to take such a course as will serve to bring out the *facts* referring to the merits of all subjects in which the farmer is interested. While we deem an honest collision of sentiment favorable to the investigation of truth; we deprecate that partizan spirit which has an exceedingly keen vision in looking at one side of a subject and is utterly blind in viewing the other. Long ago, and repeatedly since, we proposed a test by which the relative merits of the various breeds of hogs could be satisfactorily ascertained; and that was, to rear a large number of each breed, under the usual mode of treatment which the country is compelled to adopt, noting carefully all the facts involved in the experiment. When this proposition was first made, it was objected, that the demand for blooded pigs, for breeders, was too great to allow a sufficient number of them to be devoted to the experiment.—The "pig business" is indeed too profitable to be abandoned for the sake of making experiments and we have strong doubts whether any of the prominent breeders of the various vaunted breeds can ever be induced to go into such an experiment as is proposed. But the object can be effected in spite of them and without their co-operation. Many farmers have purchased blooded pigs, not for the purpose of going into the "pig busines," but of improving their stock; and they will rear their progeny, not under the stuffing and gorging system, but in the usual way, and the results of such treatment will indicate the best breeds. It cannot be long till we shall have reports of practical experiments, showing the entire treatment, the ages, the amount of food consumed, the weights attained, travelling qualities, &c. &c. This is the kind of information we have sought to elicit, because we believe it to be the only satisfactory kind.

We have some facts, relating to various breeds, which we take the liberty of gleaning from our private correspondence, believing that the writers can have no objection to their publication. The facts are interesting in themselves and may lead to the development of others more explicit and satisfactory.

We begin with the statement of an experiment by Mr. B. P. Gray of Woodford, made in the usual practice of rearing hogs. It will be recollected that we published an experiment (Vol. 3, p. 142.) of this gentleman upon half blood Thin rinds, highly favorable to that breed. The present experiment relates to some pigs by an Irish boar out of half blood Thin rind sows and a comparison between them and some pigs of scrub breed. The result will astound two classes of men,—those who deny the great superiority of blood and those who affect to ridicule the Irish and Thin rind hogs, for neither of them are now considered *the* "fashionable" breed. We have the notes before us furnished by Mr. Gray and no one who knows him will doubt the correctness of his statements. And it is proper to say that he is not a "pig dealer;" his hogs were reared and killed for the use of his own family; and no one must regard this notice either as a "puff or an advertisement in disguise."

He killed 46 hogs last fall. Of these, 22 were scrubs, pigged in October 1839; the residue were out of half blood Thin rind sows by an Irish boar, 22 of them pigged in January 1840, and the other two pigged in October 1839 about the time of the scrubs. The scrub pigs were well wintered in the usual way; and as soon as the blooded pigs were weaned, the whole 46 were turned together and well treated. The clover was good but the rye was very indifferent [nobody grew good rye last summer.] The whole were put up together in a pen on the 15th of Sept. 1840, to be fattened on corn. Now mark the result.

The 22 blooded pigs, pigged in January 1840, slaughtered November 19, ten months old, weighed neat, 5120 pounds, being an average of 232 pounds each, neat.

The 22 scrubs, pigged in October 1839, slaughtered December 17, near a month later, when fourteen months old, weighed neat, 3930 pounds, being an average of 178 pounds each, neat.

So the scrubs, four months older, and fed on corn near a month longer, averaged each, 54 pounds less than the average of the blooded pigs.

The two blooded pigs, pigged about the same time of the scrubs, and killed a month sooner, weighed respectively, 306 and 298 pounds, neat.

The heaviest blooded pig weighed, neat, 296 pounds, the lightest, 192; the heaviest scrub, 206, lightest, 104.

These facts need no comment; they speak for themselves and every farmer can make his own calculations as to the relative value of blooded and common pigs. The scrub pigs were considered of good stock; and we presume the weights they attained will prove them equal to the average of common hogs.

Mr. Joseph Reed, of Montgomery county, had 6 pigs, pigged about the first of April, by Dr. Combs' Berkshire boar, out of a common sow, which averaged 175 lbs. neat, killed about the middle of November, when seven and a half months old—ordinary treatment.

We will now quote from a letter by Dr. Martin, dated Dec. 7, 1840. He is a distinguished breeder of cattle and various breeds of hogs, but is understood to be an advocate of the Woburn hogs:

"Now for avoirdupois. I sold to Henry Savory, five hogs of Woburn blood, that were two and three years old—the three year olds had been used as boars.—No. 1, weighed 640 lbs; No. 2, 630; No. 3, 660; No. 4, 748; No. 5, 824. 7 1-2 off each for weight of breeching—I have sent this to the Kentucky Farmer.

I had some pigs, pigged 23rd of last December; they were kept with their mother, after some cattle, until April, when they were turned on grass, and 1st Jnly upon rye that was less than two bushels to the acre, (what was cut and I cut the best of it,) after which about a hundred were turned upon a stubblefield and they had access to an apple orchard of one hundred trees, winter fruit, very little down until a storm 3rd of October. They stayed here until put up to fatten and were killed 17th November and weighed neat meat 261. These were the refuse of the Woburns—I dont know what the best wonld have done. I killed a pig, a little older than Gov. Wickliffe's boar which was pigged 14th February, with same kind of treatment as the last, that weighed 250 lbs. neat. I killed a refuse pig, much the least in the litter, pigged 14th *May*, half white Berkshire and half Woburn—killed Nov. 17, that weighed 110 neat meat. The best of this litter, I think, (a mere matter of opinion,) would have weighed 200 lbs. each."

The statement in reference to the big hogs, so far as relates to the expense of their keep, the quantity of food consumed, and the length of time they were fully fed, is about as definite and satisfactory as the phrase—"big as a piece of chalk." And the Doctor had been more satisfactory, in reference to the pigs, had he stated the length of time they were corn fed.

Our next quotation is from a letter by A. B. Allen, Esq. of Buffalo, New York, a distinguished breeder and advocate of Berkshire hogs, under date, Columbus, O. December 9, 1840; and we are glad to find one so eminent, concurring in our views as the proper mode of ascertaining the real merits of the various breeds.

"But to return to Berkshires. I know that the Woburns can beat the present Berkshires* in weight at the same age, but that is nothing. The only fair and proper test would be such as you propose, 50 or 100 head of each grown up and fatted in the common farming way of the country, an accurate account kept of their food and then see which has given the most and best pork for it; nothing less than this would be satisfactory. But can Dr. Martin show a gain of upwards of three months, of three pounds per day, as the Brentnalls made a Berkshire barrow do last winter? Vide their statement in March or April number of the Cultivator. I have just made a most superb importation from England and have every satisfactory evidence from the persons who bred them, that the families from which they are derived will gain 1 3-4 to 2 lb. pr. day, made barrows and shoved in their feed, for the first year of their lives. A pair of pigs, sent with one of the sows, has gained since littered in April 1 3-4 lbs. per day each up to the present time, and one of the boars actually weighed on the scales, on arrival, 520 lbs. at 18 months old, though thin in flesh. My brother will make a statement of them either in his own or my name, for December or January No. of the Cultivator. They had not arrived when I left but he says they show great vigor and constitution; and, notwithstanding their size, are equal in fineness of point to my very best Shaker and other stock. The oldest boar, he adds, is superior to any thing he ever saw, not excepting the last sent out by Hawes to Lossing and the Brentnalls—their color and characteristics same as Hawes' importations. The stock of my Prince Regent, imported last fall, has proved very fine and has taken premiums wherever exhibited, but it is hardly large enough to suit Kentucky. In this valley, [the Scioto] and in New York, 'tis much admired. Breeders here tell me they dont want a *bigger hog than 300 lbs.* at 18 months; and a few large Berkshires I brought down wont sell at all among them, while the medium size go rapidly. As to their driving, I know the longest legged ones cant be beaten in *mud* or any where else. I give you an extract of a letter just received from John Mahard jr. of Cincinnatti, one of the largest pork packers there. He wrote me unsolicited in the way of business:

'We have just got through cutting and packing 1280 hogs, for J. B. Kenney, Esq. and others, who drove them from near Georgetown, Ky., a distance of about 80 to 100 miles and in the drove they had five or six half blood Berkshires and they stated that they stood the journey *better than any other hogs in the drove*; and although several of the common hogs gave out and had to be left behind, every one of the half Berkshires came safe through to market.'

To be sure this is but a small and partial experiment, but it goes to prove my assertions regarding their driving qualities; and as Mr. Kenny is one of your neighbors, I suggest your obtaining the statement from him and publishing it."

We shall conclude now, by an extract from a letter written by a gentleman of Madison (that great hog raising county) to a correspondent in Clarke, who transcribed it in a private letter under date December 23, but with no view of its publication. As to the conclusions of the writer, favorable to one breed and unfavorable to others, they would carry more weight, had he stated the facts and grounds on which they are based. But the writer appears to have exerted and active spirit of investigation and he, too, coincides with us, that the gorging system does not furnish the true test. We would thank him for his facts.

"Mr.——and myself endeavored at the Winchester fair to determine which, among the several rival breeds of hogs, is the best. We carefully examined the specimens of each that were exhibited there, and concluded that the very best of each, reared in the best manner, is not a fair test of their relative value or of their merits; because we sometimes see individual animals possessing that conformation which experience has proved constitutes them the most valuable of their species, which has been the result of accident aided by extraordinary care and judgment in rearing, and is not a characteristic of their race. It is sometimes the case too, that this form is imparted by a single cross and never appears in their progeny. It is a fact also, that one particular breed of fine animals, crossed upon an inferior race, will make a great improvement. We therefore determined that the best mode of settling this matter would be to examine those different breeds in *general* and not in particular individuals; to see them under indifferent as well as good treatment, and inspect the cross of each upon our common stock kept as stock hogs generally are. This course of examination we commenced at your house. We have since looked at other herds. We have seen the cross of the Woburn, the Berkshire and the Grazier, upon the various breeds of scrub hogs, and after a tedious and rigid investigation of the claims of all of them, through their crosses and in themselves, for all the purposes for which they are designed, we unhesitatingly pronounce the Woburn the best hog. We have seen them crossed in every way and the result has been invariably, an obvious and decided improvement. I could give you some facts in relation to other favorite breeds, crossed upon the scrubs, of which perhaps you are not apprised, that detract much from their merit and high standing in my esteem; but as you are the owner of all those different breeds, I will say nothing here upon that subject."

This is strong language and we repeat that the writer should substantiate his opinions by the facts.

We have now had the various breeds long enough to judge of them by their real merits; and we repeat our call for facts, ascertained in practice. We mean to show fair play and do full justice to all; and if the facts regarding the merits and relative value of each of the vaunted breeds, be not made known, it shall be the fault of the breeders themselves. Give us, then, *facts*, proving the superiority of your various breeds. State your treatment fully and fairly and then give us your arguments in avoirdupois. No humbugging puffs will be admitted; we have had, in all conscience, too much of them already. Intelligible, practical facts are now due; let's have them.

From the Farmer's Register.

INQUIRIES AND REMARKS ON SALT, AS A MANURE, AND ESPECIALLY FOR COTTON.

"Have you seen a late English work, 'Johnson on Fertilizers,' in which he discusses some recent experiments in that country on salt as a manure? particularly in combination with compost, farm-yard manure or lime. They are so important that I am anxious to see them transcribed into your useful periodical. He is spoken of in the 'Library of Useful Knowledge,' as high authority, and if he is to be credited, salt would be cheap manure at two dollars a bushel. Besides, he recommends it so highly for destroying weeds, if put on a season in advance of the crop, and for destroying worms and other insects infesting a crop, that I am desirous to see it in print, that experiments may begin extensively thro' this country. I should not be surprised, from his trials, that a top-dressing of a bushel an acre, sown over cotton in June, should destroy the worm which has so dreadfully consumed our crops in the South. At that season of the crop, the worm is burrowed about six or seven inches deep in holes made in the ground; and he informs us that worms in that situation are certainly destroyed by salt in small quantities thrown over the earth."

The foregoing extract is from the letter of a distinguished Southern planter, whose name we are always pleased to present with his communications, whenever not forbidden by his order, as in the present case.

The essay of Johnson, on salt as a manure, would have been published long ago, but from our want of confidence in his opinions. Upon the desire expressed above, we shall take an early opportunity to publish either Johnson's own article, or his and others opinions on that subject, as given in the 'Farmers' Series' of the Library of Useful Knowledge.' The use of salt as a manure has been frequently urged, upon the ground of great benefits produced by it in particular cases. It has often excited the hopes and enlisted the active zeal of some theoretical writers, and again fallen into neglect, because of failures in practice. As a general practice, salting land for its fertilization, at any rate of quantity, has not been found advantageous or profitable. But even if not a general fertilizer of soil at all, still it may be highly beneficial as a destroyer of predatory insects, (if taking care not to give so strong a dose as to injure the crop on the land,) and still more probably as a specific manure, or food essential for certain crops. This last opinion we have long entertained, and have before expressed it in this journal, as well as we have published every known fact on this very important point. Many plants cannot grow except on a salt soil. There is no doubt that salt is a specific manure for asparagus, and there is a good reason to believe that it is also a specific manure for the very important crop, cotton, On the latter head, see articles at page 677, vol. iv., and pages 45 and 46, vol. v.—The two first we copied from the 'Southern Agriculturist.' The last, our (editorial remarks) being short, will here be copied:

"It seems to us that salt must act as a specific manure for cotton, and is essential to produce the fineness of fibre that constitutes the value of the sea island cotton. As different as are the quality and appearance of this cotton from the green seed, or short staple upland cotton, they are but varieties of the same kind, the most of which, rapidly runs into the other, by a mere change of soil. The one kind is raised, in perfection, only on the low sandy islands on the sea coast of Georgia and South Carolina, and the adjacent shores of the main land. If the seeds (which are naked and black,) are planted in the interior, though but little remote from the sea, the product is what is called the "long staple Santee," a green seed cotton, but of longer fibre than the ordinary upland cotton, into which, however, continued planting from the same, finally brings the crop.

"It has been supposed that the very sandy nature of the soil of the sea islands was the cause of the peculiar value of the cotton which they bear. But if so, some spots, at least, might be found equally sandy in the interior of the country, and the same kind of cotton be there produced successfully. But the accounts we have in the foregoing and other articles of the peculiar value of salt mud and salt grass, as manure for cotton, indicate plainly that salt itself is necessary for the perfection of cotton, and that it is owing to the salt already in the soil of the sea islands, and the adjacent low coast, that to such narrow limits the production of that valuable variety of cotton has heretofore been confined."

In what manner specific manures act upon the plants for which they are either very important or essential, has not been satisfactorily explained in any case. The facts, however, are not the less certain, in the ascertained cases; and there may be many other as important cases, which have not yet been observed. Thus carbonate of lime, or some equally serviceable form of combination of lime, and in considerable quantity in the soil, is essential to the growth of clover. Gypsum (sulphate of lime) is another important specific manure for clover, but not as indispensable to its existence as other forms of lime. The acid of earth, which is a poison to valuable crops, is indispensable food, or a specific manure, for sorrel, poverty grass, and some kind of pine trees—none of which can live after this acid has been effectually neutralized by manuring with lime. If then, though in a less essential degree, salt is a specific manure for cotton, it may well be that a very small quantity may produce important improvements to the growth, though no other cultivated crop might receive any perceptible benefit from a like application.

From the Jour. of the Am. Silk Society.

EDIGOR'S ADDRESS TO SILK CULGURITS.

—We enter upon the publication of the Silk Journal another year, with no little anxiety and trepidation. We have not one-fourth the number of subscribers necessary to pay the expenses of the publication; but what we lack in number of subscribers, is made up in hope—hope, that the good cause in which we are engaged will yet be sufficiently prosperous to afford us the means of publishing the Journal; hope, that the people of the United States will not neglect so great and so good an opportunity of benefitting themselves and their country, as the culture of silk affords; and that in turning their attention to it, the Journal will be considered by them, one of the most important aids to the attainment of the great object. We therefore, once more launch our little bark for another voyage and trust to the good sense of the people, who are to be exclusively benefitted, for a sufficient supply of *small stores* to support us to the end of it.

Silk will yet become one of the three great staples of the country; nothing can prevent this. Enough has already been done to ensure that result. But whether it shall become so *sooner* or *later*, depends upon the exertions now made and making to accomplish it. If the people will take hold of it with spirit, it can be made to take this place in four or five years; if it must be permitted to work its own way into favour, by the force merely of the persevering example of a few operators, it will require a much longer time.

We have heretofore discussed the objection made to the culture of silk, on the score of the comparative high price of labour here. The objectors say, 'labour is too high in this country for us to use it in making silk.' Is not the labour applied in making every thing else, as high as that of making silk? How can we make cotton goods, or woollen goods; how can we make *brick*, (formerly imported, as well as silk, (if the price of our labour is too high? This argument is fallacious. It is not the price of labour that precludes the production of any article, but the scarcity of enterprize, and ingenuity, of a want of a proper direction of them. A new country will not be likely to enter upon the production of articles of luxury, the whole attention of their enterprizing and ingenious men being occupied in producing necessaries; but as soon as a supply of these is secured, or the number of such men is increased, then the production of luxuries will commence, in spite of the price of labour, and the opposition of apathetic croakers.

That silk will be a profitable pursuit we have not now, and never had, a single doubt. But like all other pursuits, it must be followed by business men in a business-like manner. To make money from the culture of silk, requires a due degree of enterprize, perseverence, skill, and economy—nothing more. And in what other pursuit can money be made without all these? We are told, that the failures last season were so numerous that, at best, the business will be a precarious one. We do not draw the same conclusion from the same premises. On the contrary, we consider the failures of last season the natural result of natural causes, which can be and of course will be avoided. If general success had attended all the experiments last year, it would have been a phenomenon worthy of being called the eighth wonder. We are only astonished, that we ever could have expected anything better than what happened. Let us look at the subject for a moment. Those who attempted the making of silk, with very few exceptions, went into it blindfold as it were, without experience, with very little knowledge, and with the worst possible and conceivable means. They were in the fitful delirium consequent upon the excitement of the tree mania; they were misled by *interested* advisers as to the skill required in raising and managing worms, and as to the profit to be made; and added to all this, they were unfortunately supplied with bad eggs, and still more unfortunately, badly advised as to their management. And we may add another to the list of causes; nearly the whole supply of leaves was derived from young immature trees, which, of itself, would have been considered in any other country a sufficient cause for all the misfortunes that happened. Nearly all these causes of failure may be avoided another season; all indeed, except the supply of eggs, and the proper mode of keeping them, for successive crops. There are few good eggs in the country, and still fewer adapted to the production of successive crops; but there are enough to enable this year to establish the silk culture upon a firm basis.

It will be our business, and our pleasure, during the present season, to collect and distribute all the information on the subject that shall come within our reach. We shall continue to receive from France, early information of all improvements in machinery and in practice; and we shall leave no source of information unappealed to for the same purpose.

Once more, therefore, we appeal to the friends of the good cause to aid us. To every one of them we appeal to get all the subscribers they can for the Journal. As we are not begging for our own benefit, but for the benefit of those who give, we are not ashamed to say, that we will receive *contributions* to aid in the publication of the Journal. And here we must acknowledge the liberality of several gentlemen, who have contributed considerably more than their individual subscriptions. We are precluded from mentioning their names by their own request, which we regret, as it might act as a stimulus to others to do likewise. G. B. S.

EXISTENCE OF AMMONIA IN THE ATMOSPHERE AND IN RAIN WATER.

In a notice of Liebig's Organic Chemistry applied to Agriculture and Physiology, in Silliman's Journal of science for January, we find it stated that ammonia had been discovered in the atmosphere, and in rain water and snow.

A pound of rain water was found to contain *one quarter* of a grain, and that this was absorbed from 20,890 cubic feet of air. Hence the writer supposes or calculates that a field of 26,917 square feet would receive in a year upwards of 80 of lbs. ammonia. The writer observes that the presence of ammonia in rain water may be shown by adding a little sulphuric or muriatic acid to rain water and evaporating it in a clean porcelain vessel nearly to dryness, when the ammonia may be detected by allowing a little powdered lime which will liberate the ammonia. Thus produced it has an offensive animal odor.

Ammonia is found more or less in all animal manures, when they are decomposed.

The writer above alluded to thinks that in the discovery of ammonia in the air, a clue is obtained to the true cause of the fertilizing properties of plaster of Paris. He observes that the sulphate of lime (gypsum) fixes in the soil the ammonia which is dissolved in the atmosphere